

Sept. 12/17.

<ul style="list-style-type: none"> <li>Salt P C</li> <li>Sugar P C</li> <li>Wood M H</li> <li>Rock P C</li> <li>Water P C</li> <li>Milk P C</li> <li>Plastic P C</li> <li>Glass P C</li> <li>Mercury P E</li> </ul>	<ul style="list-style-type: none"> <li>Apple Juice M S</li> <li>Syrup M S</li> <li>Gold P E</li> <li>Air M E</li> <li>Oxygen P E</li> <li>Silver M H</li> <li>Cookies M H</li> <li>Cake M H</li> <li>Sand M H</li> </ul>
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white

Classify the following as:

a) pure or mixture

b) element, compound, heterogeneous or homogeneous mixture

Solution

Mercury  
80 Hg 200  
2+/+

Transition Metal

## Properties of Matter: Physical and Chemical

- A **Physical Property** is a characteristic of a substance.
- Changing the size or amount of the substance does not change the physical properties.

## Physical Properties

- Color** – red, green, white, etc.
- Texture** – smooth, fine, coarse.
- Taste** – sour, sweet, salty.
- Odour** – what smell does the substance have?
- States of matter** at room temperature:
  - solid, liquid, gas.

- Malleable** is the ability of a solid to be hammered or bent into different shapes. Aluminum foil is malleable. Gold is malleable since it can be hammered into thin sheets.
- Hardness** – the measure of the resistance of a solid to being scratched or dented Diamond
- Luster** – How shiny is the substance?

## List the Physical Properties

Baking soda is:

- ✓ solid at room temperature
- ✓ white in color
- ✓ crystal form
- ✓ dissolves easily in water.



we completed this for sugar.

## Chemical Properties

- A chemical property is a behaviour that occurs when a substance changes to a new substance.
- For example:
  - Is the substance **combustible**? Burn.
  - Does the substance have a **reaction with acid**?
  - Does the substance **react with water**?

Key ?'s to ask about a product.

1. Do not change the organization of subatomic particles of the sample of matter.

- 2. Can be undone quite easily.

**Key: No new substance is created.**

- Examples: melting ice, freezing water, dissolving salt into water, breaking a solid into smaller pieces

created.  
 Sugar.  
 C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>.  
 stays  
 zing water.  
 eaking a stick.  
 same  
 no matter  
 what...

1. Change the organization of subatomic particles of the sample of matter. *Sw*

2. Not easily undone – almost impossible

Key: New substance almost always formed.

- Examples: burning wood, baking a cake, digesting food

- A new color appears.
- Heat or light is given off.
- Bubbles of gas are formed.
- A solid material (called a precipitate) forms in a liquid.
- The change is difficult to reverse.

*ask about compounds element.*  
*stalagmite or ice cycle*

P's to ask about compound element.

- The starting materials are called reactants and the new materials produced are called products.

■ REACTANTS      →      PRODUCTS

